

STATEMENT ACCOMPANYING REQUEST FOR SPECIAL TEMPORARY EXPERIMENTAL AUTHORIZATION BY AEROVIRONMENT, INC.

1. Introduction

By this application, AeroVironment, Inc. (AeroVironment), requests that the Commission grant special temporary experimental authority for the period from September 1, 2014 to October 31, 2014 to operate at 2380 MHz, 2415 MHz and 2455 MHz at Fort Benning, Georgia. The experiments will be conducted on an intermittent basis.

In this statement, we explain the purpose and nature of the proposed operations and why this application is within the Commission's experimental authorization rules. We also provide the information required by the Commission's rules.

2. Purpose

The purpose of the experiments is providing analysis and information to further the availability of small unmanned aircraft systems technologies to Department of Defense (DoD) responsibilities. AeroVironment has formal relationships with agencies of the US DoD to use the company's electric-powered, hand-launched small unmanned aircraft systems (SUAS) to provide situational awareness for tactical operating units through real-time, airborne reconnaissance, surveillance and communication. The purpose of this request for authority to operate at Fort Benning is to assist these agencies in developing further technology solutions centered on AV's SUAS portfolio within other spectrum bands.

3. Technology Use

The experiments embrace a model using a band segment that aligns with technology and equipment currently available. AeroVironment commits to operations respecting other users of the band and those in adjacent segments. The limited power levels proposed are part of this commitment. AeroVironment believes the compelling purpose of bringing these advanced services to the challenges noted serves the public interest. The 2380 MHz, 2415 MHz and 2455 MHz channels provide SUAS control and video and telemetry transmission from the SUAS to the ground. Slots are dedicated for uplink data and a downlink.

Operations at Fort Benning will be confined to this DoD facility and within DoD restricted air space.

4. Nature of Operations

Surface Based and Airborne Transmission

AeroVironment's communications module, Digital Data Link (DDL), will use the proposed channels for purposes of sending ground based command and control data to and from the SUAS and to transmit video and telemetry to the ground control station. Emission Designators are

4M68G7W and 1M56G7W, respectively with a transmit power at 1 W. Transmission control will be from the surface control station to the SUAS via a laptop or console. AeroVironment’s DDL system has been adopted by the US Army as the standard communications architecture for all small unmanned systems, including ground robots.

5. Stop Buzzer

Andy Thurling, Chief Test Pilot, will be available by telephone at 805.581.2198, extension 1892, Cell Phone 805.368.6351 and will act as a “stop buzzer” if any matters involving interference arise during the testing.

6. Transmitting Equipment

AeroVironment Transreceiver Model 50280, with 2 units at Fort Benning is proposed. It is not experimental.

7. Antenna

The Antenna details are as follows:

Antenna	Gain (Nominal)	Polarization	Orientation in Vertical Plane	Oriental in Horizontal Plane
GCU Antenna ASY AeroVironment Stack Patch	9dbi*	Vertical	30	85
Tailboom ASSY AeroVironment Dipole	2dbi	Vertical	78	360

*Major Side Lobe

- E-Plane
 - Gain: -2 dbi
 - 120 deg

- H- Plane
 - Gain: -2 dbi
- 179 deg

8. Restrictions on Operations and Interference Protection

AeroVironment understands that experimental operations must not cause harmful interference to authorized facilities. Should any interference occur, AeroVironment will take immediate steps to resolve the interference, including, if necessary, discontinuing operations.

9. Waiver of Station Identification Requirements

AeroVironment requests a waiver of the station identification requirements stated in Section 5.115 of the Commission's rules.

10. Diagram

A diagram of the proposed operation is provided in the Attachment.

Conclusion

AeroVironment appreciates very much the Commission's consideration of this application for a Special Temporary Experimental Authorization. Please call upon us if we can respond to any questions.

Operations Diagram



Small Unmanned Aircraft-

Video and
Telemetry
2380 MHz
2415 MHz
2455 MHz

Aircraft
Command and
Control Main
and
2380 MHz
2415 MHz
2455 MHz

